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AMENDMENTS TO THE CLAIMS

1.   (Currently Amended) A method for determining a dynamic range of a digital medical image for a medical imaging system, the digital medical image containing a clinical region, comprising:

dividing a digital medical image into at least two bands of predetermined width;

generating a profile for each of said at least two bands of predetermined width;

determining whether the digital medical image within said at least two bands includes at least one non-clinical region based on said profile;

masking said at least one non-clinical region based on at least one of gray scale maximum and minimum values for the at least one non-clinical region, said at least one non-clinical region comprising one of a raw radiation region and a collimated region; and

calculating a dynamic range based on a clinical region within each of said at least two bands.

2.   (Cancelled).

3.   (Previously Presented) The method of claim 1, wherein the dividing step further comprises dividing the digital medical image into one of horizontal and vertical bands.

4.   (Original) The method of claim 1, further comprising:

differentiating said digital medical image, said determining step calculating a position of the non-clinical region based on a result of said differentiation.

5.   (Original) The method of claim 1, further comprising:

calculating at least one threshold based on a dynamic range of the digital medical image, said at least one threshold being used to identify at least one of maximum and minimum values for the non-clinical region.

6.   (Previously Presented) The method of claim 1, wherein said determining step discriminates at least one of histogram maximum and minimum values for a non-clinical region based on at least one predetermined threshold.

7.   (Original) The method of claim 1, further comprising:

when a non-clinical region is determined to exist, masking the non-clinical region from the digital medical image before calculating said dynamic range.

8.   (Cancelled).

9.   (Previously Presented) The method of claim 1, further comprising:

generating a histogram of the digital medical image; and

masking gray scale levels from the histogram that exceed predetermined upper and lower thresholds.

10.   (Original) The method of claim 1, wherein said determining step determines that the digital medical image does not include a non-clinical region and said calculating step calculates a dynamic range of the entire digital medical image as the clinical region.

11.   (Currently Amended) A medical diagnostic imaging system for controlling a dynamic range of a digital medical image to be displayed, comprising:

a segmentation module identifying clinical and non-clinical regions within a digital medical image, said non-clinical regions comprising at least a collimated region;

a processor dividing the digital medical image into at least two bands, wherein said processor is capable of masking at least one non-clinical region based on at least one of gray scale maximum and minimum values for the at least one non-clinical region, the at least one non-clinical region comprising at least one of a raw radiation region and a collimated region; and

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a dynamic range module determining a dynamic range of a clinical region of the digital medical image based on the clinical region, said dynamic range module determining a dynamic range of said clinical region within said at least two bands, said dynamic range module computing dynamic range characteristics based on said dynamic range, said dynamic range characteristics capable of adjusting said digital medical image.

12.   (Previously Presented) The system of claim 11, further comprising a digital detector obtaining said digital medical image having said clinical and non-clinical regions.

13-14. (Cancelled).

15.   (Previously Presented) The system of claim 11, wherein the segmentation module identifies said non-clinical regions based on variations in gray scale levels of the digital medical image.

16.   (Previously Presented) The system of claim 11, wherein the segmentation module differentiates at least a portion of the digital medical image to identify the non-clinical regions.

17.   (Previously Amended) The system of claim 11, wherein the segmentation module discriminates the non-clinical regions based on at least one gray scale threshold value.

18.   (Previously Presented) The system of claim 11, further comprising a processor calculating at least one threshold based on a dynamic range of the digital medical image, said segmentation module discriminating the non-clinical regions based on said threshold.

19.   (Previously Presented) The system of claim 11, said dynamic range module including a processor masking over said non-clinical regions when determining the dynamic range of the clinical region.

20.   (Previously Presented) The system of claim 11, further comprising a processor calculating at least one of a maximum and minimum gray scale level for the digital medical image in order to identify the non-clinical regions.

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21.   (Previously Presented) The system of claim 11, further comprising a processor calculating at least one of maximum and minimum gray scale levels for the clinical region in order to determine the dynamic range of the clinical region.

22.   (Previously Presented) The system of claim 11, further comprising a processor generating a histogram of at least a portion of the digital medical image to identify gray scale levels associated with said non-clinical regions.

23.   (Previously Presented) The system of claim 11, wherein the segmentation module masks said non-clinical regions identified in the digital medical image.

24.   (Previously Presented) The system of claim 11, wherein the segmentation module determines that the digital medical image does not include said non-clinical regions, said dynamic range module using the digital medical image to determine said dynamic range of the digital medical image.

25.   (Previously Presented) The method of claim 1, further comprising differentiating said digital medical image, said determining step calculating positions of first and second non-clinical regions based on a result of said differentiation, said first and second non-clinical regions comprising raw radiation data and collimated data, respectively.

26.   (Cancelled).   .

27.   (Previously Presented) The system of claim 11, further comprising a processor dividing said digital medical image into at least two bands, wherein said at least two bands comprise one of horizontal and vertical bands, said dynamic range module determining a dynamic range of said clinical region within said at least two bands.

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method for determining a dynamic range of a digital medical image for a medical imaging system, the digital medical image containing a clinical region, comprising:

dividing a digital medical image into at least two bands of predetermined width;

generating a profile for each of said at least two bands of predetermined width;

determining whether the digital medical image within said at least two bands includes at least one non-clinical region based on said profile;

masking said at least one non-clinical region based on at least one of gray scale maximum and minimum values for the at least one non-clinical region, said at least one non-clinical region comprising one of a raw radiation region and a collimated region; and

calculating a dynamic range based on a clinical region within each of said at least two bands.

2. (Cancelled).

3. (Previously Presented) The method of claim 1, wherein the dividing step further comprises dividing the digital medical image into one of horizontal and vertical bands.

4. (Original) The method of claim 1, further comprising:

differentiating said digital medical image, said determining step calculating a position of the non-clinical region based on a result of said differentiation.

5. (Original) The method of claim 1, further comprising:

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calculating at least one threshold based on a dynamic range of the digital medical image, said at least one threshold being used to identify at least one of maximum and minimum values for the non-clinical region.

6.   (Previously Presented) The method of claim 1, wherein said determining step discriminates at least one of histogram maximum and minimum values for a non-clinical region based on at least one predetermined threshold.

7.   (Original) The method of claim 1, further comprising:

when a non-clinical region is determined to exist, masking the non-clinical region from the digital medical image before calculating said dynamic range.

8.   (Cancelled).

9.   (Previously Presented) The method of claim 1, further comprising:

generating a histogram of the digital medical image; and

masking gray scale levels from the histogram that exceed predetermined upper and lower thresholds.

10.   (Original) The method of claim 1, wherein said determining step determines that the digital medical image does not include a non-clinical region and said calculating step calculates a dynamic range of the entire digital medical image as the clinical region.

11.   (Currently Amended) A medical diagnostic imaging system for controlling a dynamic range of a digital medical image to be displayed, comprising:

a segmentation module identifying clinical and non-clinical regions within a digital medical image, said non-clinical regions comprising at least a collimated region;

a processor dividing the digital medical image into at least two bands, wherein said processor is capable of masking at least one non-clinical region based on at least one of gray scale maximum and minimum values for the at least one non-clinical region, the at least one non-clinical region comprising at least one of a raw radiation region and a collimated region; and

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a dynamic range module determining a dynamic range of a clinical region of the digital medical image based on the clinical region, said dynamic range module determining a dynamic range of said clinical region within said at least two bands, said dynamic range module computing dynamic range characteristics based on said dynamic range, said dynamic range characteristics capable of adjusting said digital medical image.

12.   (Previously Presented) The system of claim 11, further comprising a digital detector obtaining said digital medical image having said clinical and non-clinical regions.

13-14. (Cancelled).

15.   (Previously Presented) The system of claim 11, wherein the segmentation module identifies said non-clinical regions based on variations in gray scale levels of the digital medical image.

16.   (Previously Presented) The system of claim 11, wherein the segmentation module differentiates at least a portion of the digital medical image to identify the non-clinical regions.

17.   (Previously Presented) The system of claim 11, wherein the segmentation module discriminates the non-clinical regions based on at least one gray scale threshold value.

18.   (Previously Presented) The system of claim 11, further comprising a processor calculating at least one threshold based on a dynamic range of the digital medical image, said segmentation module discriminating the non-clinical regions based on said threshold.

19.   (Previously Presented) The system of claim 11, said dynamic range module including a processor masking over said non-clinical regions when determining the dynamic range of the clinical region.

20.   (Previously Presented) The system of claim 11, further comprising a processor calculating at least one of a maximum and minimum gray scale level for the digital medical image in order to identify the non-clinical regions.

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21.   (Previously Presented) The system of claim 11, further comprising a processor calculating at least one of maximum and minimum gray scale levels for the clinical region in order to determine the dynamic range of the clinical region.

22.   (Previously Presented) The system of claim 11, further comprising a processor generating a histogram of at least a portion of the digital medical image to identify gray scale levels associated with said non-clinical regions.

23.   (Previously Presented) The system of claim 11, wherein the segmentation module masks said non-clinical regions identified in the digital medical image.

24.   (Previously Presented) The system of claim 11, wherein the segmentation module determines that the digital medical image does not include said non-clinical regions, said dynamic range module using the digital medical image to determine said dynamic range of the digital medical image.

25.   (Previously Presented) The method of claim 1, further comprising differentiating said digital medical image, said determining step calculating positions of first and second non-clinical regions based on a result of said differentiation, said first and second non-clinical regions comprising raw radiation data and collimated data, respectively.

26.   (Cancelled).

27.   (Previously Presented) The system of claim 11, further comprising a processor dividing said digital medical image into at least two bands, wherein said at least two bands comprise one of horizontal and vertical bands, said dynamic range module determining a dynamic range of said clinical region within said at least two bands.